



Folic Acid: Frequently Asked Questions & Answers

What are neural tube defects (NTDs)?

Neural tube defects (NTDs) are major birth defects of a baby's brain or spine. They happen when the neural tube (that later turns into the brain and spine) doesn't form right, and the baby's brain or spine is damaged. This happens within the first few weeks a woman is pregnant, often before a woman knows that she is pregnant.

- The two most common NTDs are spina bifida (spi-na bif-a-da) and anencephaly (an-en-sef-a-lee). These birth defects can cause lifelong disability or death.
- Many—but not all--NTDs can be prevented by getting enough of the B vitamin folic acid every day, starting before a woman gets pregnant.

What are spina bifida and anencephaly?

Spina bifida (spi-na bif-a-da) and anencephaly (an-en-sef-a-lee) are two common types of NTDs. About 3,000 pregnancies in the United States are affected by spina bifida or anencephaly each year. Many of these defects could be prevented if all women got enough of the B vitamin folic acid every day starting before they get pregnant.

Spina bifida occurs when the bones of the spine do not close all the way. When this happens, the spinal cord and spine do not form as they should. A sac of fluid comes through an opening in the baby's back. Much of the time, part of the spinal cord is in this sac, and it is damaged. Most children born with spina bifida live full lives, but they often have lifelong disabilities and need many surgeries. Some of their problems include:

- Not being able to move lower parts of their body. (Some might need to use crutches, braces, or wheelchairs to get around.)
- Loss of bowel and bladder control. (Some might have to wear protective clothing. Others learn new ways to empty their bladders and bowels.)
- Fluid building up and putting pressure on the brain (hydrocephalus), which needs to be fixed with an operation.
- Learning disabilities.
- Allergy to latex (a material from rubber found in some products such as balloons or hospital gloves).

All children born with spina bifida don't have the same needs. Some children have problems that are much more severe than others. Even so, with the right care, most of these children will grow up to lead full and productive lives.

Anencephaly occurs when the brain and skull (bones of the head) do not form right. When this happens, part or all of the brain and skull might be missing. Babies with this defect die before birth (miscarriage) or shortly after birth.

What is folic acid and where can I get it?

Folic acid is a B vitamin that is needed to make healthy new cells. If a woman has enough folic acid in her body before and during pregnancy, her baby is less likely to have an NTD. Women need to take folic acid every day and need to start before they get pregnant.

Every woman who could possibly get pregnant should take 400 micrograms (400 mcg or 0.4 mg) of folic acid daily in a vitamin or in foods that have been enriched with folic acid.

There are two simple ways to be sure to get enough each day:

- Take one (1) vitamin with folic acid each day. Most multivitamins (mul-tee-vi-ta-mins) sold in the United States have the amount of folic acid women need each day. Women can also choose to take a small pill

that has only folic acid in it each day. Both types of vitamins can be found at most local pharmacy, grocery, or discount stores.

OR

- Eat a bowl of a breakfast cereal that has 100% of the daily value (DV) of folic acid per serving every day. *Total, Product 19, Cheerios Plus, Special K Plus, Life, and Smart Start* are some examples. The label on the side of the box should say "100%" next to folic acid.

Along with taking a vitamin or eating a cereal that has 100% DV of folic acid, women should always eat a healthy diet that has lots of fresh fruits and vegetables and other healthy foods fortified with folic acid.

Scientists don't know how folic acid works to prevent birth defects. But they do know that folic acid is needed to make healthy new cells, like the ones that make up a baby's brain and spine. Taking folic acid every day starting before pregnancy and continuing during pregnancy can reduce the chances for these serious birth defects by 50% to 70%.

Who can have a baby with a neural tube defect in the United States?

Any woman in the United States can have a baby with an NTD. If a woman can get pregnant, she can have an NTD-affected pregnancy. No one can predict which women will have a pregnancy affected by an NTD. All women are at risk.

There are some things that can increase the chances for women. They are

- Having had an NTD-affected pregnancy in the past
- Diabetes when the blood sugar is out of control
- Some medicines (like some of those that treat epilepsy)
- Obesity
- High temperatures in early pregnancy (such as fever that lasts a while, or using hot tubs and saunas)
- Being Hispanic (Hispanic women tend to have more babies affected by NTDs)

Can women get too much folic acid?

It's unlikely that women will be hurt from getting too much folic acid. We don't know of an amount that is dangerous. Yet, for most women, consuming more than 1,000 mcg of folic acid daily is of no benefit. Unless their doctor advises them to take more, most women should limit the amount they take to 1,000 mcg a day.

Are women getting enough folic acid?

Most women in the United States do not get enough folic acid for it to help prevent birth defects. The average woman gets less than the amount that is needed from her diet alone. That's why all women who can get pregnant are urged to take a vitamin with folic acid or eat a serving of fully fortified breakfast cereal each day.

What are the costs associated with NTDs?

The average cost of caring for a child born with spina bifida for life is about \$636,000.00 per child. This is only an average cost, and for many families the total cost might be well above \$1,000,000. And, it's not just the money. The physical and emotional tolls upon the families affected are high as well. If spina bifida could be prevented in just one more child, all efforts would be worthwhile!

Are there other health benefits of taking folic acid?

Folic acid might help to prevent some other birth defects, such as cleft lip and palate and some heart defects. There might also be other health benefits of taking folic acid for both women and men. More research is needed to confirm these other health benefits.

To learn more about folic acid and how to prevent birth defects, link to CDC's folic acid website: www.cdc.gov/folicacid
Email: Flo@cdc.gov or call 1-800-232-4363 (CDC-INFO)
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